DEPARTMENT OF COMMUNITY DEVELOPMENT

Jaclynn Workman- Administrator

HELPFUL BUILDING GUIDELINES

SINGLE STORY DETACHED GARAGE
(No Habitable Space Above, Potential Storage ONLY)

HOW TO USE THIS GUIDE:

This guide has been designed to assist the do-it-yourselfer to create a construction plan to build a simple one story detached garage using conventional constructions methods compliant with the 2018 IRC Code. Non-conventional constructed garages will require a design professional.

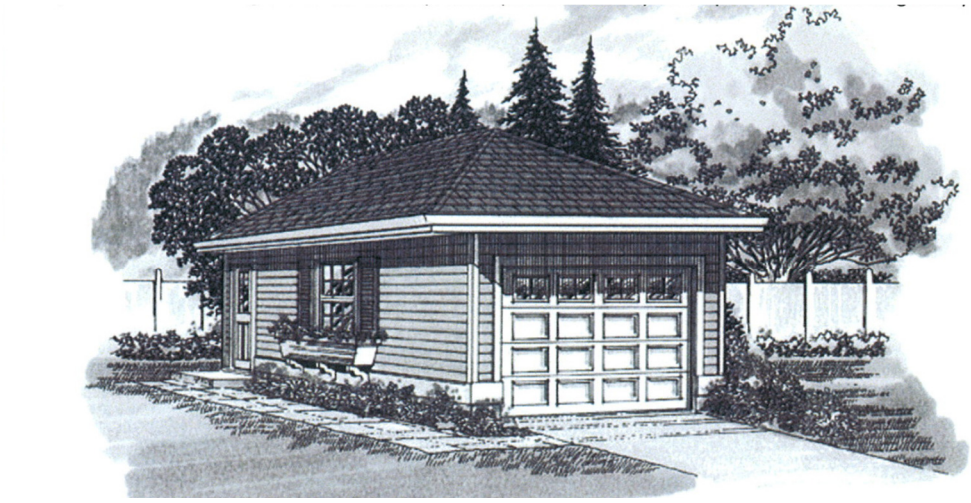
1. **COMPLETE THIS BUILDING GUIDE** by filling in the blanks on page two and three and indicate which construction details will be used.

2. **SUBMITTAL REQUIREMENTS** to be completed/fulfilled as required by the Community Development Department

3. **NOW YOU ARE READY TO APPLY FOR YOUR BUILDING PERMIT.** Submittal of all the required documents will help determine compliance with the building code, zoning ordinance and applicable laws.

4. **INSPECTIONS.** As stated in the Submittal Requirements a 24 hour advance notice to the Community Development Department is required for inspections. Inspections required are listed, but not limited to those on the on the *Required Inspection Brochure*.

Remember **YOU** are responsible to call for the inspections.
If you are unsure during the construction process please contact our Department for assistance.



- Uninhabitable attics ***without storage*** are those where the maximum clear height between joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configuration capable of accommodating an assumed rectangle 42 inches high by 24 inches in width, or greater, within the plane or the trusses. This live load need not be assumed to act concurrently with any other live load requirements.

- Uninhabitable attics ***with limited storage*** are those where the maximum clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configuration capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater within the plane of the trusses.

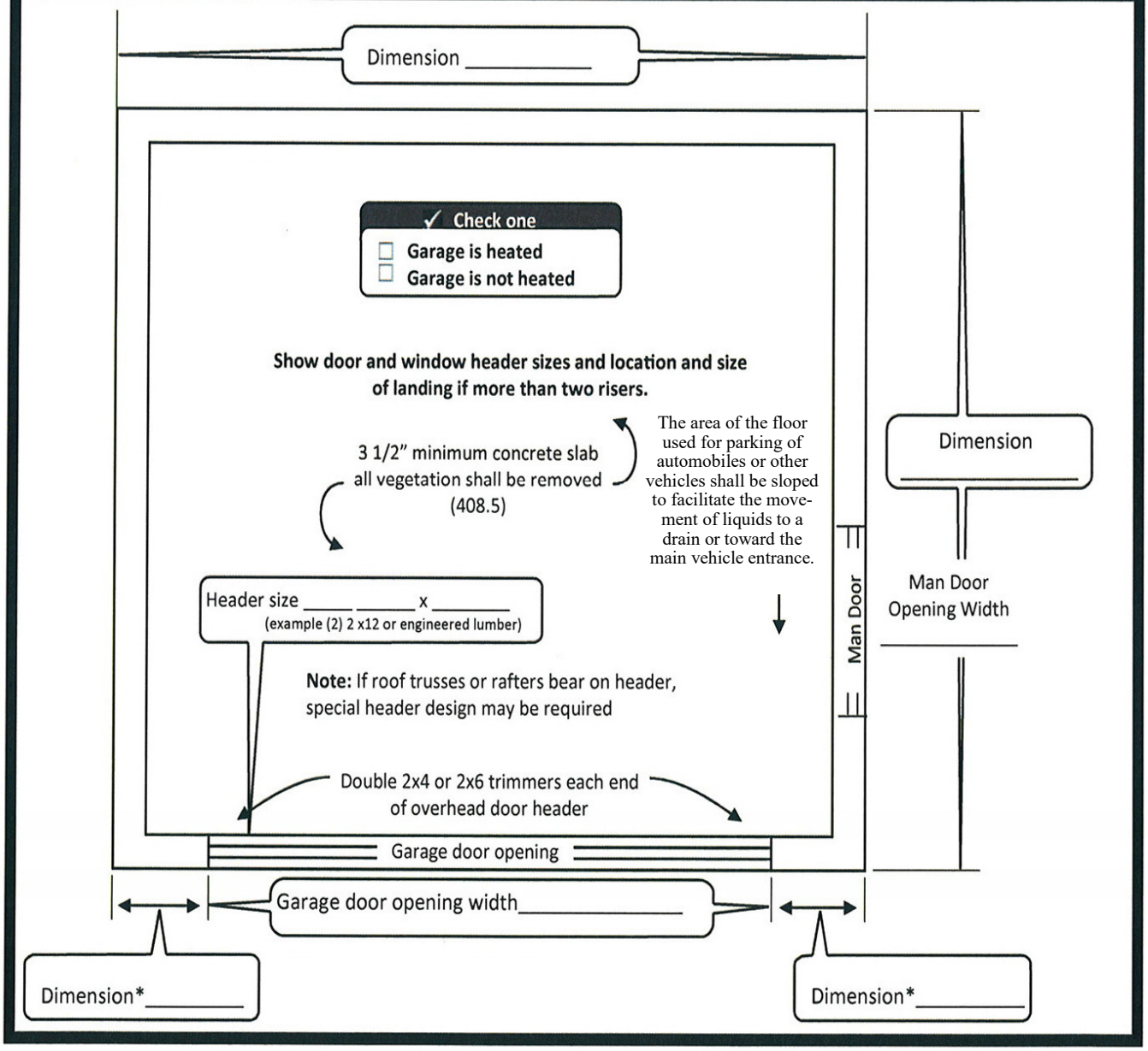
The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met.

1. The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is a minimum of 30 inches.
2. The slopes of the joists or truss bottom chords are no greater than 2 inches vertical to 12 units horizontal.
3. Required insulation depth is less than the joists or truss bottom chord member depth.

The remaining portions of the joists/truss bottom chord shall be designed for a uniformly distributed concurrent live load of not less than 10lbs/sq ft.

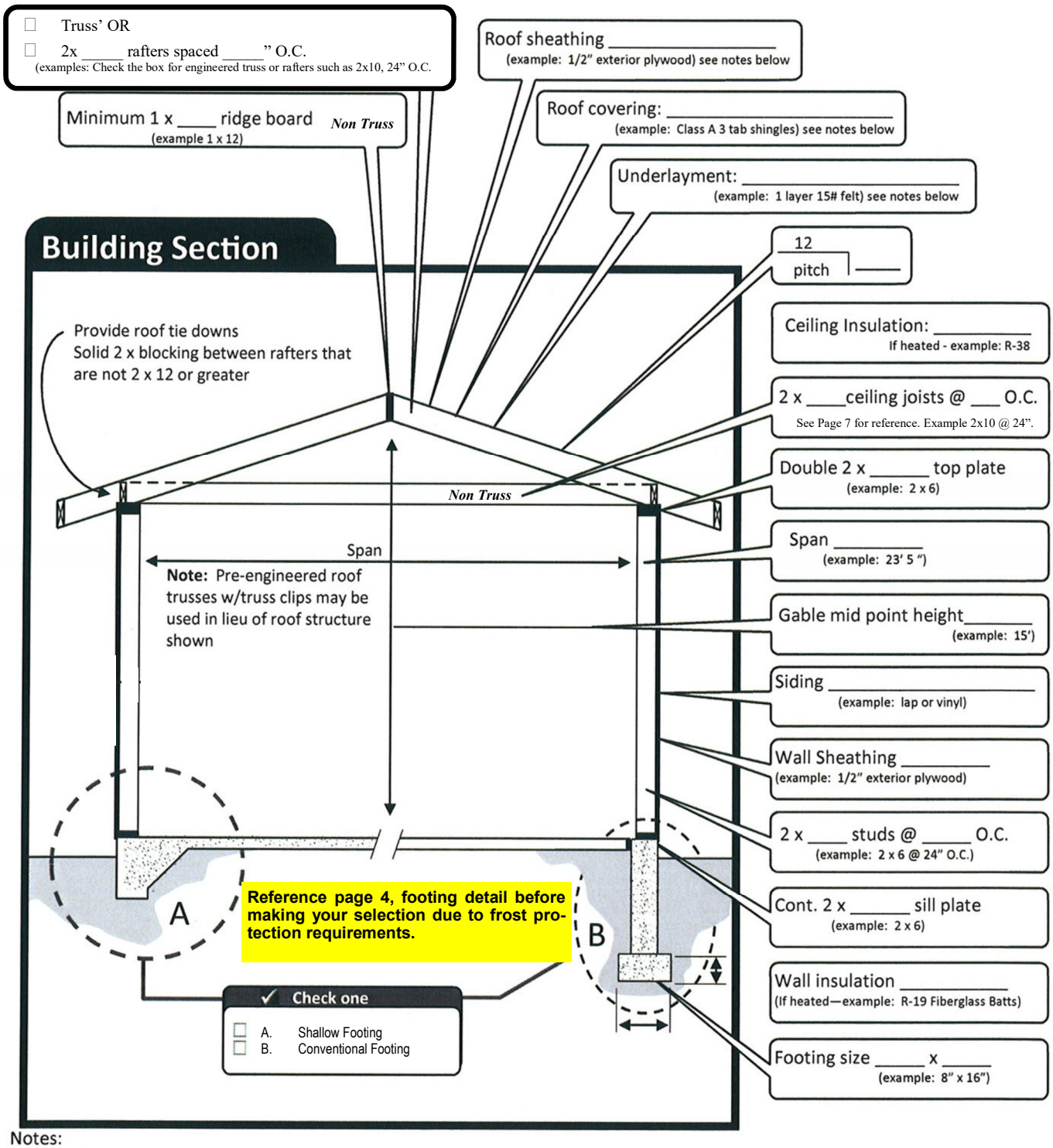
Note: Heated garages may require special provisions.

Floor Plan



NOTES - Concrete Slab

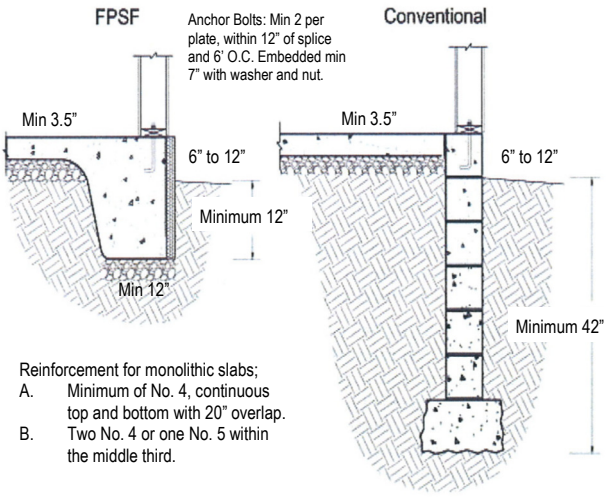
- All sod and vegetation must be removed.
- If fill is required under slab it must be compacted sand or gravel.
- Floating slab from Detail A and A1 shall be monolithically poured.
- Welded wire fabric or equivalent in slab.
- Minimum 12" perimeter footing (all four sides at least 12" below grade) (IRC 403.1.4).
- Concrete floor or curb to be 6" min. above grade (IRC 404.1.6).



Notes:

- Roof sheathing shall be a minimum of 3/8" plywood, for non-veneer OSB/WB 7/16" is the minimum. Sheathing spanning 16" or 24" on center, structural clips must be provided at the center point of each span (table R503.2.1.1 (1)d).
- For roofs with slopes less than 4:12, follow manufacturer's instructions for low slope application of roofing material.
- Shingles must be rated for 90 MPH and over 15# felt.
- Heated buildings require ice dam barrier applied inside of roof/wall junction.
- Hurricane straps, rafter ties or other tie downs shall be used to attach all roof rafters or trusses to top plates. When double top plates are used, straps or ties must attach to both plates.

FOOTING REQUIREMENTS (R403)



R403.1.4.1
Frost Protection:

Except where otherwise protected from frost, foundation walls, piers and other permanent supports of building and structures shall be protected from frost by one or more of the following methods;

1. Extend below the frost depth of 36" to the top of the footing.
2. Heated structures insulated, as detailed in Table 403.3(1).
3. Constructed in accordance with ASCE 32 for heated and un heated structures.
4. Constructed on solid rock.

Frost Protection Exemptions;

1. Freestanding accessory structure of *light frame construction* with an area of 600 square feet or less and eave height of 10' or less.

2. Freestanding accessory structure of constructed of *anything other than* light frame construction with an area of 400 square feet or less and an eave height of 10' or less.

FIGURE R602.10.6.3
METHOD PFG—PORTAL FRAME AT GARAGE DOOR OPENINGS IN SEISMIC DESIGN CATEGORIES A, B AND C

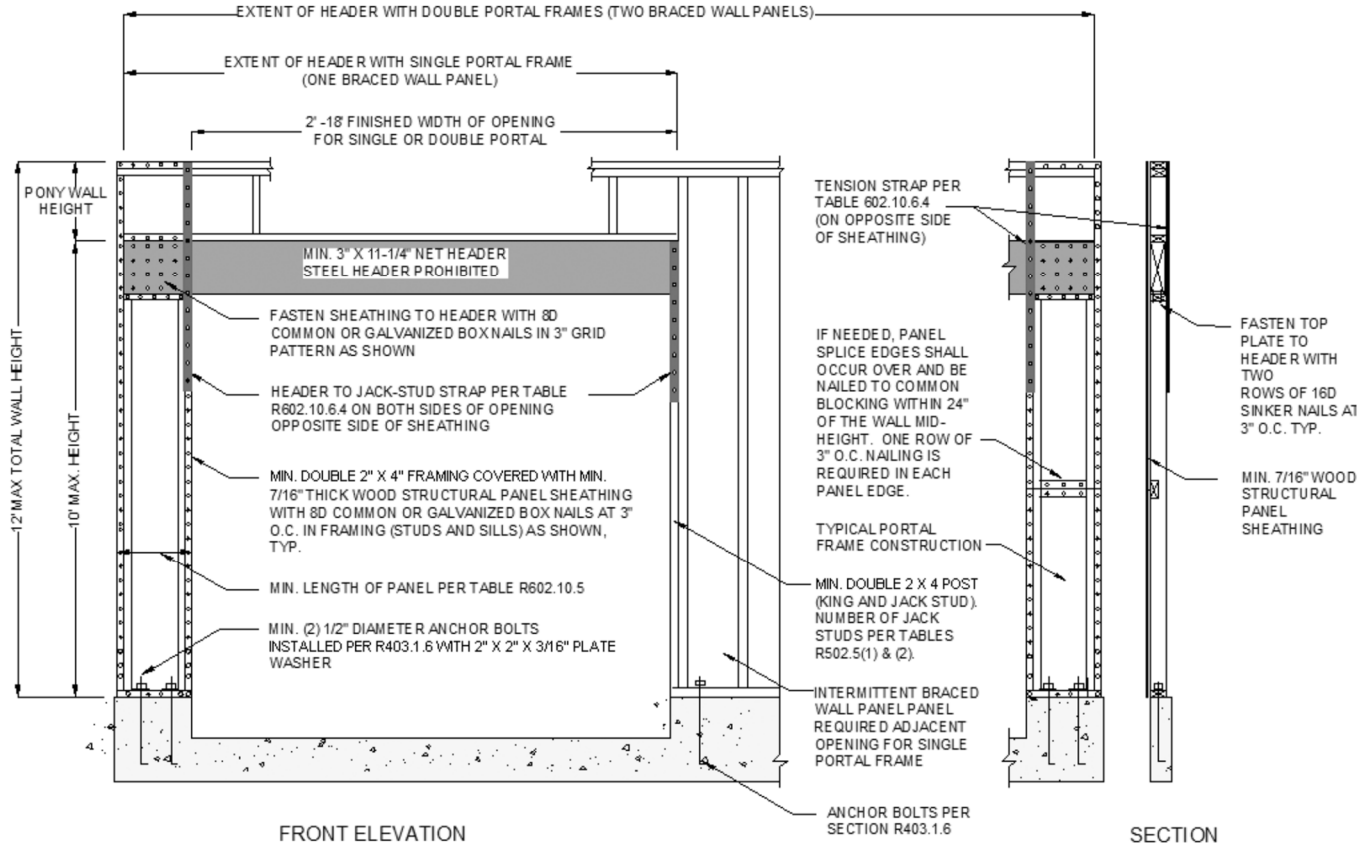


Table R802.4(1)						
Ceiling Joist Spans for Common Lumber Species						
Uninhabitable attics without storage, live load = 10psf.						
Ceiling Joist Spacing (inches)	Species and Grade		Dead Load = 5psf			
			2 x 4	2 x 6	2 x 8	2 x 10
			Maximum Span			
			(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
16	Douglas Fir	SS	11-11	18-9	24-8	Note a
		#1	11-6	18-1	23-10	Note a
		#2	11-3	17-8	23-0	Note a
	Southern Pine	SS	11-9	18-5	24-3	Note a
		#1	11-6	18-1	23-1	Note a
		#2	11-3	17-8	23-4	Note a
24	Douglas Fir	SS	10-5	16-4	21-7	Note a
		#1	10-0	15-9	20-1	24-6
		#2	9-10	14-10	18-9	22-11
	Southern Pine	SS	10-3	16-1	21-2	Note a
		#1	10-0	15-9	20-10	Note a
		#2	9-10	15-6	20-1	23-11
*Note a: Span Exceeds 26 feet in length.						

Table R802.4(2)						
Ceiling Joist Spans for Common Lumber Species						
Uninhabitable attics with limited storage, live load = 20psf.						
Ceiling Joist Spacing (inches)	Species and Grade		Dead Load = 5psf			
			2 x 4	2 x 6	2 x 8	2 x 10
			Maximum Span			
			(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
16	Douglas Fir	SS	9-6	14-11	19-7	25-0
		#1	9-1	13-9	17-5	21-3
		#2	8-9	12-10	16-3	19-10
	Southern Pine	SS	9-4	14-7	19-3	24-7
		#1	9-1	14-4	18-11	23-1
		#2	8-11	13-6	17-5	20-9
24	Douglas Fir	SS	8-3	13-0	17-1	20-11
		#1	7-8	11-2	14-2	17-4
		#2	7-2	10-6	13-3	16-3
	Southern Pine	SS	8-1	12-9	16-10	21-6
		#1	8-0	12-6	15-10	18-10
		#2	7-8	11-0	14-2	16-11
*Note a: Span Exceeds 26 feet in length.						

The charts above are an excerpt of the full charts provided in the IRC,

table reference is provided for your convenience.

You are not limited to the information provided above. This is simply a quick reference.

Table R802.5.1(1)							
Rafter Spans for Common Lumber Species							
Roof live loads = 20psf, ceiling <u>not</u> attached to rafters.							
Rafter Spacing (inches)	Species and Grade		Dead Load = 20psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum Span				
			(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
16	Douglas Fir	SS	10-5	16-0	20-3	24-9	Note b
		#1	9-1	13-3	16-10	20-7	23-10
		#2	8-6	12-5	15-9	19-3	22-4
	Southern Pine	SS	10-3	16-1	21-2	Note b	Note b
		#1	10-0	15-0	18-10	22-4	Note b
		#2	9-1	13-0	16-10	20-1	23-7
24	Douglas Fir	SS	8-11	13-1	16-7	20-3	23-5
		#1	7-5	10-10	13-9	16-9	19-6
		#2	6-11	10-2	12-10	15-8	18-3
	Southern Pine	SS	8-11	14-1	18-6	22-11	Note b
		#1	8-3	12-3	15-4	18-3	21-9
		#2	7-5	10-8	13-9	16-5	19-3
*Note a: Span Exceeds 26 feet in length.							

Table R802.5.1(2)							
Rafter Spans for Common Lumber Species							
Roof live load = 20psf, ceiling <u>attached</u> to rafters.							
Rafter Spacing (inches)	Species and Grade		Dead Load = 5psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum Span				
			(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
16	Douglas Fir	SS	9-6	14-11	19-7	24-9	Note b
		#1	9-1	13-3	16-10	20-7	23-10
		#2	8-6	12-5	15-9	19-3	22-4
	Southern Pine	SS	9-4	14-7	19-3	24-7	Note b
		#1	9-1	14-4	18-10	22-4	Note b
		#2	8-11	13-0	16-10	20-1	23-7
24	Douglas Fir	SS	8-3	13-0	16-7	20-3	23-5
		#1	7-5	10-10	13-9	16-9	19-6
		#2	6-11	10-2	12-10	15-8	18-3
	Southern Pine	SS	8-1	12-9	16-10	21-6	Note b
		#1	8-0	12-3	15-4	18-3	21-9
		#2	7-5	10-8	13-9	16-5	19-3
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